

uated at the base ; very closely and beautifully inlaid with minute white triangular scale-like markings upon a dark-brown ground, disposed in three broad bands ; the colour in the narrow spaces between the bands is lighter brown, with the markings tending to zigzag streaks ; the markings of the spire are waved streaks crossing the whorls. Length 51, width 23 millim.

Mr. Melvill had named this shell in manuscript *Conus euetrios* ; and I admit that it is quite as worthy to be considered a species as *C. canonicus* (Brug.), *C. vicarius* (Lamk.), *C. verriculum* (Reeve), *C. archiepiscopus* (Brug.), *C. tigrinus* (Sowerby), *C. corbula* and *scriptus* (Sowerby), all of which, however, I consider varieties of *Conus textile* (Linnæus). It is the opinion of some that, having got thus far, other species, such as *C. abbas* (Brug.), *C. panniculus* (Lk.), *C. legatus* (Lk.), &c., should be included ; but having had exceptional opportunities, from time to time, of examining large numbers of specimens of all the varieties, I continue to regard these last as species.

#### EXPLANATION OF PLATE V.

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| Fig. 1. <i>Conus prytanis</i> , p. 117.              | Fig. 8. <i>Pseudoliva</i> ( <i>Macron</i> ) <i>stereoglypta</i> , p. 119. |
| 2. — <i>evelynæ</i> , p. 117.                        | 9. <i>Engina xantholeuca</i> , p. 119.                                    |
| 3. — <i>semivelatus</i> , p. 118.                    | 10. <i>Columbella</i> ( <i>Anachis</i> ) <i>ostreicola</i> , p. 119.      |
| 4. — <i>dianthus</i> , p. 118.                       | 11. <i>Fissurella melvilli</i> , p. 120.                                  |
| 5. — <i>wilmeri</i> , p. 118.                        | 12. <i>Pecten sibyllæ</i> , p. 120.                                       |
| 6. — <i>textile</i> , var. <i>euetrios</i> , p. 120. | 13. — <i>loxoides</i> , p. 120.   |
| 7. <i>Mitra melvilli</i> , p. 118.                   |   |

#### 4. Descriptions of new or rare Species of Asteroidea in the Collection of the British Museum. By F. JEFFREY BELL, M.A., F.Z.S.

[Received January 10, 1882.]

#### (Plate VI.)

Although naturalists are agreed that it is most convenient to publish descriptions of new species in connexion with a systematic review of the groups to which they severally belong, I venture on this occasion to depart from the custom, as a knowledge of these new species may be agreeable to those who are interested in the order, while the revisions can only appear slowly, and at perhaps great intervals of time.

#### CALVASTERIAS ANTIPODUM, n. sp. (Plate VI. fig. 1.)

The credit of recognizing the generic affinities of this species must be given to M. Perrier ; for there is attached to the bottle containing it a label bearing, in his handwriting, "*Calvasterias*, sp." It formed part of the collection made during the voyage of the 'Erebus' and 'Terror.'

R = 61 ; r = 19. Arms five, greatest breadth of arm 17·5 millim. Adambulacral spines generally in a single row, stout and

rounded at their tips. Madreporic plate almost subcentral. The integument is thick, and has a peculiar clamminess; and the spines developed on the surface are rather scale-like rounded processes, ornamented with a radial striation; of these an irregular series extends along the median dorsal line of each ray; towards the extremity of the ray the scales become a little thinner and longer, or, in other words, more spinous; the striation may still be detected on their tips. While at this end they are somewhat scattered, they are more numerous at the base of the arm, where also they are larger. Passing into the disk a complete circlet is made by these processes, the aggregation at the base of each radial series being brought into connexion with its fellows by interrarial aggregations. In this way a rather broad though somewhat feebly indicated circlet of modified spines lies around the centre of the disk; a few similar spines are to be found in the central space. In the middle of one of the interrarial aggregations there is placed the madreporic plate, which thus comes to be surrounded by a circlet of spines. On the arms three rows of pore-areas may be made out on either side of the median row of spines, which are the only spinous processes that are developed on the abactinal surface. The marginal spines, short and blunt and pretty regularly arranged, have an appearance not unlike that presented by the jaw of a *Cyclodus*. Between them and the adambulacral spines there is a bare space, which, in this spirit-specimen, is narrow and groove-like. The whole creature is of a yellowish-white hue; and the suckers are little darker than the rest of the body.

A single specimen. The only indication of its habitat is the fact that it was collected during the voyage of the 'Erebus' and 'Terror.'

*CRIBRELLA MINUTA*, n. sp. (Plate VI. fig. 2.)

R = 18; r = 6.5 Arms five, 6 millim. wide at their base, and somewhat rapidly diminishing in breadth. The abactinal surface plain, and similar for its whole extent. The adambulacral spines fringing the groove are arranged in a single row; there is generally one for each plate; they are of a fair size, and are distinctly separated from one another. Externally to these there is a series of transverse rows, containing at least three or four spines, and sometimes having them arranged in double order. Beyond these, and separated from them by a more or less distinct longitudinal groove, is a longitudinal row of closely packed spines. Externally to this there are a number of combs of spines set transversely, which occupy the edge of the actinal surface of the ray. The next series of spines is not so regularly arranged, and leads to the irregular disposition of spiniferous ossicles which obtains on the abactinal surface. The madreporic plate is small, obscure, and marginal. No pedicellariæ detected.

The colour of the single example (which has been in spirit for more than twenty-five years) is dead white.

Ecuador (Haslar collection, J. O. Goodridge, Esq., R.N.).

*MITHRODIA VICTORIÆ*, n. sp. (Plate VI. figs. 3, 3 a.)

$R = 26.5$ ,  $r = 3.5$ ;  $R = 30$ ,  $r = 4.6$ . Arms five, 4 or 4.2 millim. wide at their base, and not diminishing in breadth for some distance from the disk; integument of the abactinal surface marked out into spaces by the arms of the calcareous skeletal pieces; a few spines, two or three millimetres long, are to be found along the middle line of the arm; a few spines, which are generally a little longer, are placed at the upper or abactinal edge of the side of the arm. They frequently exhibit a white and brown patchwork-like coloration, which is due to the arrangement of the pigment in the integument which covers them. The actinal or lower margin of the side of the arm has along it from 7 to 10 spines of about the same length as those on the upper margin. The rather wide ambulacral groove is fringed by a regular series of short blunt spines, which are strongest in the region which falls within the disk. Within this series there is a row of smaller and more delicate spines, of which about five, set in fan-shape, belong to each ambulacral ossicle; the outer and larger spines may be coarsely granulated. The madreporic plate is small, white, and rounded, and is set not far from the centre of the disk; the abactinal surface of the disk presents no characters by which it may be distinguished from that of the arms; the papulæ on the actinal surface are rare. No pedicellariæ detected.

This new species is to be distinguished from *M. clavigera* by (1) the rarity of the papular spaces on the abactinal surface, (2) by the proportionally smaller spines, and (3) by the absence of a row of spines between the ventro-marginal series and the abactinal rows, a row which appears to be constantly present in the better-known form. Judging from the single specimen of *M. bradleyi* in the collection of the British Museum, that species has much larger papular pores, has two rows of spines on the actinal surface of the rays, and none at all on their abactinal surface.

Victoria Bank ( $20^{\circ} 42' S.$ ,  $37^{\circ} 27' W.$ ); depth 39 fathoms; bottom, dead coral.

Both the specimens from which the above description has been drawn up are injured; one appears to have lost one of its arms during life, as the free end is healed. They formed part of the collection made by Dr. Coppinger (H.M.S. 'Alert') in 1879-80; but they were not noticed in my report (P. Z. S. 1881), as they did not form a part of the fauna of the Straits of Magellan.

*FROMIA INDICA*.

*Fromia indica*, Perrier, R  v. des Stell  r. p. 177.

*Scytaster indicus*, Perrier, Ann. Sc. Nat. (5) xii. p. 255.

Although M. Perrier's description states that his specimen has six rays, I have no hesitation in assigning to the species a five-rayed specimen, in which the proportion of  $R$  to  $r$  is somewhat greater than in the example which formed the object of M. Perrier's description. I base the determination chiefly on the following considerations:—The presenee of six rays is of itself no evidence in favour of a true polyactinid condition as against a possible heter-

actinic peculiarity; and the decision can only be given with the aid of evidence which proves or disproves the idea that the species can and does undergo division. Such evidence is here afforded by the specimen in the national collection; for it has the arms of different lengths; this, of course, points to some of the arms being younger than the others, or, in other words, as having arisen by gemmation after division.

The heteractinic, rather than the sexradiate, condition should therefore be regarded as a part of the diagnosis of the species.

*FROMIA TUNIDA*, n. sp. (Plate VI. figs. 4, 4 a.)

Arms and disk more swollen than in most of the species of the genus.  $R = 45$ ,  $r = 14$ ;  $R = 35$ ,  $r = 11.5$ , or  $R = 3.2 r$  (about); breadth of arms at base 14.5, 12.5 millim. All the plates on the actinal surface, with the exception of those of the marginal series, are closely covered with stout spines, from which the spines of the adambulacral series are distinguished by their smaller size. The whole of the abactinal surface is covered by squarish-headed granules, which are all of very much the same size, and are all very regularly distributed; they are arranged in elliptical aggregations, two or three rows of which extend along the back of the ray, or they are placed between these aggregations; in the former case they are somewhat more closely packed. The intermediate spaces, in addition to the granules, present a certain number of pores, which, however, are, in comparison with other species of this genus, rare. The madreporic plate is rather nearer the margin than the centre of the disk, and is very similar to the same body in *F. milleporella*. There are about seventeen marginal plates in both the actinal and abactinal series; and both sets are covered with granules of a fair size; and the marginal granules of each set are to be easily distinguished from the more central ones which they surround. For some way along the surface of the arm the dorso-marginal plates are deeper than long; the infero-marginal plates are much more nearly square. There seems to be a large pore at the proximal angle between the two sets of marginal plates; but as the two specimens on which this description is drawn up have both been dried, it is not possible to speak definitely on the point. The same remark will apply to the pore at the proximal angle of the actinal edge of the infero-marginal plates.

The adambulacral spines appear to be arranged in three longitudinal rows. They are subequal in size, and diminish very slightly as they approach the free end of the ray. The space between these spines and the marginal plates is completely occupied with short stout spines, set in tufts on small plates. No pedicellariæ.

Ceylon. Presented by M. Kelaart.

#### EXPLANATION OF PLATE VI.

Fig. 1. Scales of *Calvasterias antipodum*,  $\times 4:1$ .

2. Abactinal surface of *Cribrella minuta*,  $\times 2:1$ .

3, 3a. Actinal and abactinal surfaces of *Mithrodia victoriae*,  $\times 2:1$ .

4, 4a. Actinal and abactinal surfaces of *Fromia tunida*, showing the arrangement of the plates and spines,  $\times 3:2$ .

4b. Portion of actinal surface, more highly magnified.